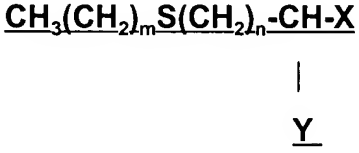
IN THE CLAIMS:

1. (currently amended) A method for preventing or treating ototoxicity, neurotoxicity, alopecia, gastrointestinal disorder, or reduced survival in a patient exposed to radiation for a time and at an intensity sufficient to result in ototoxicity, neurotoxicity, alopecia, gastrointestinal disorder, or reduced survival, comprising administering to said patient an effective amount of a protective agent comprising a compound containing a methionine or a methionine-like moiety **having the structural formula:**



wherein m is an integer from 0 to 3; n is an integer from 1 to 3; X = $-OR^1$, $-OCOR^1$, $-COOR^1$, -CHO, $-CH(OR^1)_2$, or $-CH_2OH$; Y = $-NR^2R^3$ or -OH; R^1 = H or a substituted or unsubstituted, straight or branched chain alkyl group having 1 to 6 carbon atoms; R^2 = H or a substituted or unsubstituted, straight or branched chain acyl group having 1 to 6 carbon atoms; and R^3 = H or a substituted or unsubstituted, straight or branched chain acyl group having 1 to 6 carbon atoms; or

a pharmaceutically acceptable salt thereof.

2. (original) The method of claim 1, wherein said effective amount of said protective agent is administered prior to said radiation exposure.

3. (original) The method of claim 1, wherein said effective amount of said protective agent is administered simultaneously with said radiation exposure.

4. (original) The method of claim 1, wherein said effective amount of said protective agent is administered subsequently to said radiation exposure.

5. (original) The method of claim 1, wherein said effective amount of said protective agent is administered to said patient in a time period from about 36 hours before said radiation exposure to about 36 hours after said radiation exposure.

6. (original) The method of claim 1, wherein said effective amount of said protective agent is administered to said patient in a time period from about 25 hours before said radiation exposure to about 25 hours after said radiation exposure.

7. (original) The method of claim 1, wherein said effective amount of said protective agent is administered to said patient in a time period from about 6 hours before said radiation exposure to about 6 hours after said radiation exposure.

8. (original) The method of claim 1, wherein said effective amount of said protective agent is administered to said patient in a time period from about 1 hour before said radiation exposure to about 1 hour after said radiation exposure.

9. (original) The method of claim 1, wherein said effective amount of said protective agent is administered to said patient in a time period from about one-half hour before said radiation exposure to about one-half hour after said radiation exposure.

10. (cancelled)

11. (currently amended) The method of claim **1** **[[10]]**, wherein said protective agent is selected from the group consisting of D-methionine, L-methionine, a mixture of

D-methionine and L-methionine, methioninol, hydroxy methionine, ethionine, S-adenosyl-L-methionine, a pharmaceutically acceptable salt thereof, and a combination thereof.

12. (original) The method of claim 11, wherein said protective agent is D-methionine.

13. (original) The method of claim 11, wherein said protective agent is L-methionine.

14. (original) The method of claim 1, wherein said effective amount of said protective agent is administered orally, parenterally, or topically.

15. (original) The method of claim 14, wherein the administration of said effective amount of said protective agent results in a blood serum level of protective agent equivalent to that achieved by parenteral administration in the range of from about 1.0 mg/kg body weight to about 600 mg/kg body weight.

16. (original) The method of claim 14, wherein the administration of said effective amount of said protective agent results in a blood serum level of protective agent equivalent to that achieved by parenteral administration in the range of from about 5 mg/kg body weight to about 500 mg/kg body weight.

17. (original) The method of claim 14, wherein the administration of said effective amount of said protective agent results in a blood serum level of protective agent equivalent to that achieved by parenteral administration in the range of from about 10 mg/kg body weight to about 400 mg/kg body weight.

18. (original) The method of claim 1, further comprising administering to said patient a supplemental amount of said protective agent after the administration of said effective amount.

19. (original) The method of claim 18, wherein said supplemental amount of said protective agent is administered orally, parenterally, or topically.

20. (original) The method of claim 19, wherein the administration of said supplemental amount of said protective agent is sufficient to maintain an effective blood serum level of protective agent in said patient for a period of from about one to about fourteen days after the administration of said effective amount.

21. (original) The method of claim 20, wherein the administration of said supplemental amount of said protective agent is sufficient to maintain a blood serum level of protective agent within said patient of at least about 10% of the blood serum level achieved by administration of the effective amount of said protective agent.

22. (original) A method for preventing or treating ototoxicity, neurotoxicity, alopecia, gastrointestinal disorder, or reduced survival in a patient exposed to radiation for a time and at an intensity sufficient to result in ototoxicity, neurotoxicity, alopecia, gastrointestinal disorder or reduced survival, the method comprising administering to said patient an effective amount of a protective agent comprising a compound selected from the group consisting of D-methionine, L-methionine, DL-methionine, a pharmaceutically acceptable salt thereof, and combinations thereof, wherein the administration of said effective amount of said protective agent results in a blood serum level equivalent to that achieved by parenteral administration of protective agent in the range of from about 1 mg/kg body weight to about 600 mg/kg body weight.

23. (original) The method of claim 22, wherein said effective amount of said protective agent is administered prior to said radiation exposure.

24. (original) The method of claim 22, wherein said effective amount of said protective agent is administered simultaneously with said noise exposure.

25. (original) The method of claim 22, wherein said effective amount of said protective agent is administered subsequently to said noise exposure.

26. (original) The method of claim 22, wherein said effective amount of said protective agent is administered orally, parenterally, or topically.

27. (original) The method of claim 22, further comprising administering to said patient a supplemental amount of said protective agent after the administration of said effective amount.

28. (original) The method of claim 27, wherein the administration of said supplemental amount of said protective agent is sufficient to maintain an effective blood serum level of the protective agent in said patient for a period of from one to fourteen days after the administration of said effective amount.

29. (original) The method of claim 27, wherein the administration of said supplemental amount of said protective agent is sufficient to maintain a blood serum level of protective agent within said patient of at least about 10% of the blood serum level achieved by administration of the effective amount of said protective agent.